

Serial No. 10/594,703

KY-5510

Amendment

Responsive to Office Action dated February 21, 2008

## ABSTRACT

## {Problem}

~~To provide a high precision D/A converter circuit capable of being driven with low voltage and restricting an area taken thereby when it is formed as an IC.~~

## {Means for Solving the Problem}

~~A D/A converter circuit, which includes a first current mirror circuit having a plurality of output side transistors provided correspondingly to digits of data to be converted and generates an analog current by obtaining in at least one of the output side transistors a current corresponding to weight of digit of the data, comprises a second current mirror circuit connected on an upstream or down stream side of at least one of the output side transistors corresponding to lower digit of the data, wherein operating current ratio of the output side transistor of the second current mirror circuit with respect to an input side transistor thereof is set to  $n : 1$  (where  $n$  is a positive integer), wherein the analog current is generated by obtaining a current corresponding to weight of digit, which is smaller than 1, on the output side transistor of the second current mirror circuit.~~

A D/A converter circuit includes a first current mirror circuit and a second current mirror circuit. The first current mirror circuit has a plurality of output side transistors provided correspondingly to digits of data to be converted and generates an analog current by obtaining, in at least one of the output side transistors, a current corresponding to the weight of the digit of the data being converted. The second current mirror circuit is connected on an upstream or downstream side of the output side transistors and corresponding to a lower digit of the data. An analog current is generated with the second current mirror circuit by obtaining a current corresponding to a weight of a digit that is less than 1.